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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/652,631	08/29/2003	Charles Dennison	ITO.0539D1US (P10144D)	1679
21906	7590	12/21/2004	EXAMINER	
TROP PRUNER & HU, PC 8554 KATY FREEWAY SUITE 100 HOUSTON, TX 77024			HOANG, QUOC DINH	
			ART UNIT	PAPER NUMBER
			2818	

DATE MAILED: 12/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/652,631	DENNISON, CHARLES	
	Examiner	Art Unit	
	Quoc D Hoang	2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-18 and 35-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-18 is/are allowed.
- 6) ☒ Claim(s) 35-45 is/are rejected.
- 7) ☐ Claim(s) 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Amendment filed on 11/12/2004 has been entered and made of record as Paper No. 11/2004. Claims 14-18 and 35-45 are pending in the application.
2. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Objections

3. Claim 15 is objected to because of the following informalities: in line 2, "the polysilicon film" should be --the film--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 37 and 38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 37, It is unclear what " forming a resistive film by deposition over said recess". Is this "resistive film" different from the heater material in claim 35.

Claim 38 recites the limitation "said film" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 35-37 and 39-45, as best understood, are rejected under 35

U.S.C. 102(e) as being anticipated by Chiang et al (U.S. Pat No. 6,569,705) ("Chiang").

Regarding claim 35, Chiang teaches a method comprising: forming a recess 220 in a dielectric layer 210 (col. 5, lines 24-55 and Fig. 9); forming a heater material 230 in said recess 220 to form a wall including an edge (col. 5, lines 55-67 and Fig. 10); and forming a phase change material 290 over said heater materials 230, the phase change material 290 in contact with said edge (col. 7, lines 22-36 and Fig. 14).

Regarding claim 36, Chiang teaches forming said heater 230 of polysilicon film (col. 5, lines 55-67 and Fig. 10).

Regarding claim 37, Chiang teaches forming the heater material 230 by deposition over said recess (col. 5, lines 55-67).

Regarding claim 39, Chiang teaches forming said heater material 230 in a U-shape (col. 5, lines 55-67 and Fig. 10)

Regarding claim 40, Chiang teaches filling said U-shaped heater material 230 with a dielectric material 250 (col. 5, lines 55-67 and Fig. 10).

Regarding claim 41, Chiang teaches wherein said U-shaped heater 230 includes a base and an upstanding wall having said edge spaced away from said base (col. 5, lines 55-67 and Fig. 10).

Regarding claim 42, Chiang teaches covering said recess 220 and said dielectric layer 210 with said heater material 230 (Fig. 9).

Regarding claim 43, Chiang teaches planarizing said heater material 230 (col. 5, lines 55-67 and Fig. 10).

Regarding claim 44, Chiang teaches removing said heater material 230 from over said dielectric layer 210 (col. 5, lines 55-67 and Fig. 10).

Regarding claim 45, Chiang teaches forming said recess 220 completely through said dielectric layer 210 (col. 5, lines 55-67 and Fig. 10).

Allowable Subject Matter

8. Claims 14-18 are allowed.

The following is a statement of reasons for allowable subject matter: None of the cited references or combinations thereof disclose or suggest treating the electrically resistive film to have different electrical conductivity at the bottom and the wall as required by the presently claimed invention.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quoc Hoang whose telephone number is (571) 272-1780. The examiner can normally be reached on Monday-Friday from 8.00 AM to 5.00 PM.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone numbers of

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the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

hy
Quoc Hoang
Patent examiner/AU 2818


HOAI HO
PRIMARY EXAMINER